

ANNUAL FLOOD DAMAGE PREVENTION PLAN PROGRESS REPORT FOR THE LUMMI NATION, WASHINGTON



Prepared for:
Lummi Indian Business Council

Prepared by:
Lummi Water Resources Division

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1. PURPOSE

The purpose of this report is to evaluate the Lummi Nation's progress in implementing the floodplain related mitigation measures and priority action items identified in the Lummi Nation Multi-Hazard Mitigation Plan 2010 Update (MHMP). The 2010 MHMP supersedes the 2001 Lummi Nation Flood Damage Reduction Plan, the 2004 MHMP, and the 2007 MHMP, and is the Floodplain Management tool approved for the Lummi Nation Community Rating System (CRS) certification.

This report is prepared to meet the requirements of the CRS Activity 510 (specifically 514g) and covers the period from September 2011 through August 2012.

2. REPORT PREPARATION AND DISTRIBUTION

This progress report was prepared by staff of the Lummi Water Resources Division, a division of the Lummi Natural Resources Department (LNR), with support from the Lummi Planning Department and the Lummi Police Department.

The report was submitted to the Multi-Hazard Mitigation Team (consisting of the Natural Resources Department Executive Director, the Planning Department Director, the Chief of the Lummi Nation Police Department, the Lummi Cultural Resources Protection Department Director, the Safety Officer, and assigned staff from the Natural Resources and Planning departments) and to the members of the LIBC on September 12, 2012.

The report was made public through an article in the Lummi monthly newspaper, *Squol Quol*, and is available on the following website:
<http://lnnr.lummi-nsn.gov/LummiWebsite/Website.php?PageID=72>.

3. PROGRESS EVALUATION

3.1 Proposed Mitigation Actions

The purpose of this section is to review the progress of the mitigation actions for flood hazards (FA1 through FA9) identified in Section 6.2.2.2 of the Lummi Nation MHMP.

FA1: Identify funding to complete elevation certificates for pre-FIRM tribal residences and businesses located in the floodplain.
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Coordinating Organization:	Natural Resources and Planning Departments
Timeline:	Ongoing
Plan Goals Addressed:	Reduce Vulnerability, Implementation, Public Health and Safety
Funding:	External

Status FA1: Funding to develop elevation certificates for the pre-FIRM tribal residences has not been identified yet.
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FA2: Identify funding to purchase flood insurance for LIBC buildings in or adjacent to the floodplain.

Coordinating Organization: Natural Resources and Planning Departments
Timeline: 2 years
Plan Goals Addressed: Reduce Vulnerability, Implementation, Public Health and Safety
Funding: External

Status FA2: All buildings owned by the LIBC in the floodplains of the Reservation are insured against flooding. The LIBC property insurance policy currently has a \$1,000,000 blanket flood coverage endorsement. This is an annual aggregate limit with a \$100,000 deductible.

FA3: Obtain funding for construction of 100-year setback levee along Ferndale Road.

Ideas for Implementation: Coordinate with FEMA and Whatcom County in pursuit of funding (Pre-Disaster Hazard Mitigation Grant Program, Flood Control Assistance Account Program).

Coordinating Organization: Multi-Hazard Mitigation Team
Timeline: Ongoing
Plan Goals Addressed: Reduce Vulnerability, Partnerships and Implementation, Public Health and Safety
Funding: External

Status FA3: In coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The 100-year setback levee along Ferndale Road is included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055).

FA4: Obtain funding for raising Slater Road and providing for underflow.

Ideas for Implementation: Coordinate with FEMA and Whatcom County in pursuit of funding (Pre-Disaster Hazard Mitigation Grant Program, Flood Control Assistance Account Program). Also coordinate with industries at Cherry Point and the City of Ferndale.

Coordinating Organization: Multi-Hazard Mitigation Team
Timeline: Ongoing
Plan Goals Addressed: Reduce Vulnerability, Develop Partnerships, Implementation, Public Health and Safety, Improve Habitat
Funding: External

Status FA4: Efforts continued to fund the Slater Road Elevation Project through the Federal Highways Administration. The project was identified in the Transportation Project lists in the initial federal appropriations process but was not funded. In addition, in coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The Slater Road Elevation Project is included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055).

FA5: Obtain funding for construction and maintenance of a new culvert from the Nooksack River to the Lummi River.

Ideas for Implementation: Coordinate with FEMA and Whatcom County in pursuit of funding (Pre-Disaster Hazard Mitigation Grant Program, Flood Control Assistance Account Program).

Coordinating Organization: Multi-Hazard Mitigation Team
Timeline: Ongoing
Plan Goals Addressed: Reduce Vulnerability, Develop Partnerships, Implementation, Public Health and Safety, Improve Habitat
Funding: External

Status FA5: In coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The re-establishment of a migration corridor through the Lummi River channel is included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055).

FA6: Monitor condition of culverts, tide gates, and seawall and identify funding sources for potential maintenance or repairs.

Ideas for Implementation: Coordinate with FEMA and Whatcom County to address necessary pre- and post-disaster repairs.

Coordinating Organization:	Multi-Hazard Mitigation Team
Timeline:	Ongoing
Plan Goals Addressed:	Reduce Vulnerability, Develop Partnerships, Implementation, Public Health and Safety
Funding:	External

Status FA6: \$72,400 was obtained over the last two years through the Bureau of Indian Affairs cyclical maintenance program for tribal hatcheries to repair tidegates along the Lummi Seapond Aquaculture Facility Dike. More funding is needed to complete the needed maintenance and repair of these tide gates.

Additionally, as part of the Smuggler Slough Project, construction began on July 6, 2011 to elevate the section of Marine Drive between Kwina Slough and Lummi Shore Road and to replace an existing culvert with a box culvert and self-regulating tidegate. Construction was completed in early September 2011, after the submission of the last Progress Report. This project is intended to improve the hydrologic connectivity of the wetland that is located on both sides of the road and to prevent flood waters from moving north along Smugglers Slough and flooding Haxton Way. The project is currently being monitored for hydrological and ecological functions.

FA7: Obtain funding for raising Haxton Way and providing for underflow.

Ideas for Implementation: Coordinate with FEMA and Whatcom County in pursuit of funding (Pre-Disaster Hazard Mitigation Grant Program, Flood Control Assistance Account Program).

Coordinating Organization:	Multi-Hazard Mitigation Team
Timeline:	Ongoing
Plan Goals Addressed:	Reduce Vulnerability, Develop Partnerships, Implementation, Public Health and Safety, Improve Habitat
Funding:	External

Status FA7: In coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The elevating Haxton Way and installing two bridges to provide for underflow is included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055).

FA8: After modeling of Nooksack River flooding is completed by Whatcom County, analyze flood levels under future conditions of land use and assess the benefits of more protective development standards.

Ideas for Implementation: Coordinate with Whatcom County to review models of Nooksack River flooding and to analyze the benefit-cost ratios of various development standards.

Coordinating Organization: Multi-Hazard Mitigation Team
Timeline: ongoing
Plan Goals Addressed: Reduce Vulnerability, Develop Partnerships, Implementation, Public Health and Safety
Funding: Tribal, External

Status FA8: The future conditions flood study by Whatcom County has not been conducted yet and is not scheduled for the near future.

FA9: Enforce the provisions of LCL Title 15A for new development in the coastal floodplain and continue to pursue acquisitions of existing vulnerable structures.

Ideas for Implementation: Obtain funding for acquisition and removal or relocation.

Coordinating Organization: Multi-Hazard Mitigation Team
Timeline: Ongoing
Plan Goals Addressed: Reduce Vulnerability, Implementation, Public Health and Safety
Funding: Tribal, External

Status FA9: Provisions of LCL Title 15A continued to be implemented through the tribal land use permitting process and associated Technical Review Committee.

During the timespan covered by the 2011 Progress Report, two structures (4529 Sucia Drive – coastal floodplain and 4564 Haxton Way – riverine floodplain) were acquired and deed restricted to open space by the Lummi Nation in December 2010 and January 2011 respectively as part of a FEMA HMGP grant. Currently, site restoration and replanting is being completed in preparation for the close-out of the grant.

3.2 Long-term Priorities

This section reviews the progress of the following long-term priorities on the Reservation in order of importance that were adopted into the MHMP from the pre-existing Lummi Nation Flood Damage Reduction Plan¹. Priority 6 and Priority 7 derive from the MHMP. The locations of the specific priorities are shown in Figure 1.

Priority #1.	Protect the Nooksack River floodplain on the Reservation and maintain access to the Lummi Peninsula by constructing a 100-year setback levee that extends along Ferndale Road from Ferndale to Kwina Slough, then along the north side of Kwina Slough to Marine Drive, and finally along Marine Drive to Lummi Shore Road (the levee should include a bridge over the Lummi River channel and culverts allowing flow under Marine Drive).
Status Priority #1:	In coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The as described above, all of the identified actions are included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055). In addition, as part of the Smuggler Slough Project, construction began on July 6, 2011 to elevate the section of Marine Drive between Kwina Slough and Lummi Shore Road and to install a box culvert and self-regulating tidegate. Construction was completed during September 2011 and monitoring of ecological and hydrological functions is ongoing.
Priority #2.	Reduce the potential for flood damage along the low-lying coastal areas and concurrently reduce damage to shoreline resources by bulkheads through the acquisition or relocation of flood-prone structures currently located in the coastal velocity zones.
Status Priority #2:	One structure in the coastal flood plain (4529 Sucia Drive) was acquired and deed restricted to open space by the Lummi Nation in December 2010. Currently, site restoration and replanting is in the progress of being completed in preparation for the close-out of the grant.

¹ Lummi Water Resources Division. 2001. *Lummi Nation Flood Damage Reduction Plan*. Prepared for the Lummi Indian Business Council. Lummi Reservation. November.

Priority #3.	Complete the elevation of Slater Road to the 100-year flood level east of the Nooksack River including a bridge to allow floodwaters to pass downstream.
Status Priority# 3:	Efforts continued to fund the Slater Road Elevation Project through the Federal Highways Administration. The project was identified in the Transportation Project lists in the initial federal appropriations process but was not funded. In addition, in coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The Slater Road Elevation Project is included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055).
Priority #4.	Protect, acquire, or relocate vulnerable structures in the coastal and riverine floodplains, outside of the velocity zone and floodway, respectively.
Status Priority #4:	<p>During the timespan covered by the 2011 Progress Report, two structures (4529 Sucia Drive – coastal floodplain and 4564 Haxton Way – riverine floodplain) were acquired and deed restricted to open space by the Lummi Nation in December 2010 and January 2011 respectively as part of a FEMA HMGP grant. Currently, site restoration and replanting is being completed in preparation for the close-out of the grant.</p> <p>A third structure located at 2311 Marine Drive, which is in the Nooksack River floodplain, was removed during 2011 as part of the Smugglers Slough Restoration project.</p>
Priority #5.	Provide access to the Lummi Peninsula in the case of levee failure by raising Haxton Way and providing for the flow of floodwaters under Haxton Way (this could serve as an interim measure prior to construction of a 100-year setback levee).
Status Priority #5:	In coordination with Whatcom County, the Nooksack Indian Tribe, and the Washington Department of Fish and Wildlife (WDFW), Lummi Natural Resources Department staff participated in the Puget Sound Nearshore Estuary Restoration Project (PSNERP) to ensure that this project is included in the Strategic Restoration Conceptual Engineering design phase. The PSNERP is part of an ecosystem study of the Puget Sound being co-led by the U.S. Army Corps of Engineers and the WDFW to (1) evaluate significant ecosystem degradation in

	<p>the Puget Sound Basin; (2) to formulate, evaluate, and screen potential strategies to address identified problems; and (3) to identify actions and projects to restore and preserve critical nearshore habitat. This effort is aimed at securing substantial federal funding for projects that restore Puget Sound nearshore under the Water Resources Development Act. The elevating Haxton Way and installing two bridges to provide for underflow is included as part of the Nooksack River Estuary action area (PSNERP Action ID No. 1055).</p>
Priority #6.	<p>Purchase flood insurance for all LIBC structures within or adjacent to the floodplain.</p>
Status Priority #6:	<p>All buildings owned by the LIBC in the floodplains of the Reservation are insured against flooding. The LIBC property insurance policy currently has a \$1,000,000 blanket flood coverage endorsement. This is an annual aggregate limit with a \$100,000 deductible.</p>
Priority #7.	<p>Provide residents in the tsunami hazard areas with updated information on the tsunami hazard, including the probability of occurrence, potential size of the hazard, signs of an impending tsunami, and best route to avoid a tsunami.</p>
Status Priority #7:	<p>In 2006, Whatcom County coordinated the purchase of an All-Hazard Alert Broadcast (AHAB) tsunami warning system for the Sandy Point Peninsula. This system is installed at 4332 Sucia Drive by Whatcom County Fire District #17 and is part of the Washington State tsunami warning system. The Lummi Nation purchased two additional AHABs through an Emergency Management Preparedness Assistance Grant from the Washington Emergency Management Division (WEMD) for the Reservation. These systems were installed in the floodplain and at the southern end of the Lummi Peninsula in 2007 and are also part of the Washington State tsunami warning system.</p> <p>The Lummi Nation has worked with the Washington Department of Natural Resources (DNR) and the WEMD to develop a tsunami evacuation route brochure for the Reservation. This brochure was mailed to all Reservation residents during the summer of 2007 after the installation of the two additional AHABs. The brochure is available to the public at the Lummi Natural Resources Department (LNR) and through the tribal internet site (lummi-nsn.gov). The brochure was redistributed to all residents on the Reservation in 2010 and made available to LIBC residents at the 2011 Safe Street Walk outreach project. The AHAB towers are tested weekly on Friday at noon.</p> <p>Tsunami evacuation signs were installed during the fall of 2009. The signs are inventoried annually and missing signs are replaced (occurrences of theft are low).</p> <p>On August 11, 2011, the LNR hosted a Thursday Safe Street Walk at the Lummi Fitness Center. The Safe Street Walks are attended by LIBC employees and their families at lunch hour. The topics of the outreach project were tsunamis, flooding, the NFIP, the CRS, and disaster preparedness. The event was followed up with an article in the <i>Squol Quol</i> (Lummi monthly newspaper).</p>

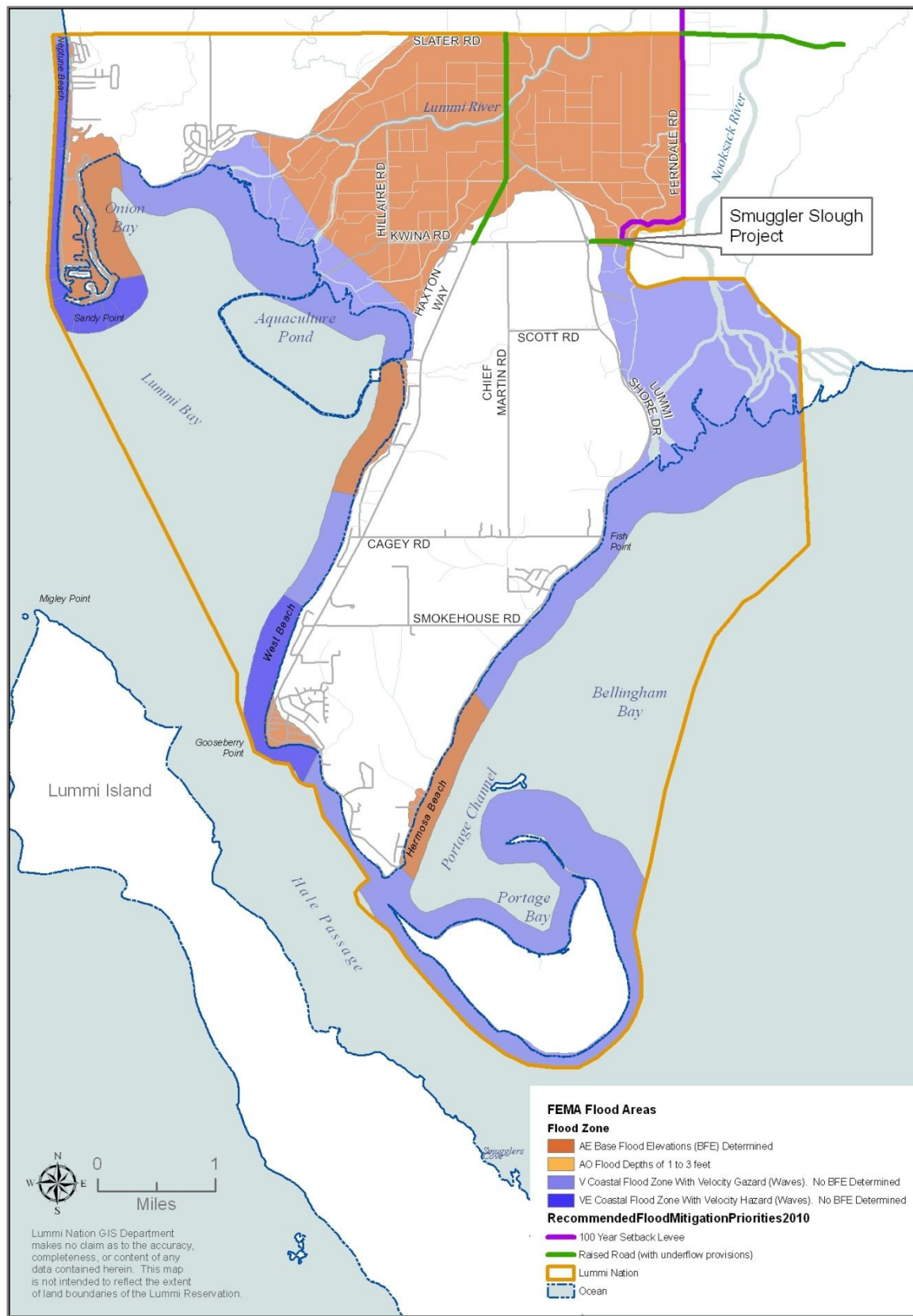


Figure 1. Locations of Recommended Flood Mitigation Priorities